

In the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1-33. (Cancelled)

34. (Previously presented) The apparatus of claim 53, further comprising an inlet port constructed to permit fluid flow into the container and an outlet port constructed to permit fluid flow out of the container.

35. (Previously presented) The apparatus of claim 53, further comprising an aperture to permit optical access to the container.

36. (Previously presented) The apparatus of claim 53, wherein the container has a volume of from about 50 to about 500 microliters.

37. (Previously presented) The apparatus of claim 53, wherein the container is plastic.

38. (Previously presented) The apparatus of claim 53, wherein the temperature gradient is between about 5°C/mm and 25°C/mm.

39. (Previously presented) The apparatus of claim 38, wherein the temperature gradient is between about 5°C/mm and 15°C/mm.

40. (Previously presented) The apparatus of claim 39, wherein the temperature gradients is about 10°C/mm.

41. (Cancelled)

42. (Cancelled)
43. (Previously presented) The apparatus of claim 53, wherein the DNA comprises a nucleic acid.
44. (Previously presented) The apparatus of claim 53, wherein the DNA comprises a polynucleotide.
45. (Cancelled)
46. (Cancelled)
47. (Previously presented) The apparatus of claim 53, wherein the DNA is labeled with a detectable label.
48. (Cancelled)
49. (Previously presented) The apparatus of claim 47, wherein the detectable label is a fluorescent label.
50. (Previously presented) The apparatus of claim 53, wherein the container further comprises a port constructed to enable fluid flow into and out of the container.
51. (Previously presented) The apparatus of claim 47, wherein the detectable label is a primary label.
52. (Previously presented) The apparatus of claim 47, wherein the detectable label is a secondary label.
53. (Currently amended) An apparatus comprising

a container designed to hold a solution of DNA and an array comprising a surface to which are covalently attached oligonucleotide probes at discrete, known locations therein; and

a temperature control system for creating a temperature gradient in the solution sufficient to cause at least a portion of the solution to be warmer than the remainder of the solution such that at least a portion of the DNA moves from the warmer portion of the solution to the cooler portion of the solution and wherein said temperature gradient ~~can be~~ is oriented within said container such that at least a portion of the DNA ~~can be~~ is driven onto or off of the surface of the ~~to an~~ array placed within said container.